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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,166	03/10/2004	Gavriel Vexler	8110-0002	9542
39207	7590	12/21/2004	EXAMINER	
SACCO & ASSOCIATES, PA P.O. BOX 30999 PALM BEACH GARDENS, FL 33420-0999			NGUYEN, CHAU N	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/799,166

Applicant(s)

VEXLER ET AL.

Examiner

Chau N Nguyen

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-85 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3-10-04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-85 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 3-4 and 6, "at least one of said inner layers" and "said insulating layers" are vague and indefinite. In line 3 of the claim, it is recited "at least one inner insulating layer". "at least one" can be understood as "one". Therefore, "at least one of said inner layers" is vague and indefinite, and "said inner layers" lacks antecedent basis.

This similar problem also happens in other claims. Please check with other claims to correct them appropriately, thank you!

Claim 1, line 6, change "wherein said layer" to --wherein said outer layer--.

Claim 34, line 2, change "the said" to --said--.

Claim 35, lines 1-2, change "the said" to --said--.

Claims 41, 43, 45, 47, and 83 are vague and indefinite by reciting the TIA/EIA 568 B.2 & B.1 standard and NFPA 262 standard because these standards changes periodically.

Claim 75, line 1, change "the said" to --said--.

Other dependent claims are included in this rejection because of the dependency.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined

under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 83 and 84 are rejected under 35 U.S.C. 102(b) as being anticipated by Mottine et al. (6,147,309).

Mottine et al. discloses a communication cable comprising four twisted pairs of insulated wires, each comprising a conductor, at least one inner layer encasing the conductor, and an outer layer encasing the inner layer, and an outer jacket encasing the twisted pairs, and wherein the cable has a flame travel of less than 5.0 feet, a peak smoke development of less than 0.50 and an average smoke development of less than 0.15 (col. 4, lines 27-31). Noted that the cable of Mottine et al. can be a Category 6 cable since it comprises structure and material as claimed in claim 83. Mottine et al. also discloses the inner layer comprising at least about 35% width of the inner and outer layer combined (see Figure 3) (re claim 84).

5. Claim 83 is rejected under 35 U.S.C. 102(e) as being anticipated by Ebrahimian et al. (6,492,453).

Ebrahimian et al. discloses a communication cable comprising four twisted pairs of insulated wires, each comprising a conductor, at least one inner layer encasing the conductor, and an outer layer encasing the inner layer, and an outer

jacket encasing the twisted pairs, and wherein the cable has a flame travel of less than 5.0 feet, a peak smoke development of less than 0.50 and an average smoke development of less than 0.15 (col. 1, lines 55-58; Table 3, test #5). Noted that the cable of Ebrahimian et al. can be a Category 6 cable since it comprises structure and material as claimed in claim 83.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35

U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35  
U.S.C. 103(a).

8. Claims 1-5, 9-11, 26-30 and 36 are rejected under 35 U.S.C. 103(a) as being obvious over Vexler et al. (6,787,694) in view of Ebrahimian et al.

The applied reference has a common inventor (Gavriel Vexler) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the

subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(1)(1) and § 706.02(1)(2).

Vexler et al. discloses an insulated wire for use in a communications cable (Figures 1, 2a), the wire comprising a conductor, at least one inner insulating layer surrounding said conductor, and an outer layer surrounding said inner insulating layer, wherein the outer layer has a dielectric constant lower than about 2.5 and a dissipation coefficient lower than about 0.001 at frequencies up to about 650 MHz. (col. 4, lines 11-16 and 21-24).

Vexler et al. does not disclose said inner layers being a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix, nor said outer layer being substantially resistant to flame spread and smoke evolution and substantially impermeable to moisture and moisture absorption. Ebrahimian et al. discloses a composition which is a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix. It would have been obvious to one skilled in the art to modify the inner layer of Vexler et al. to be a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix as taught by Ebrahimian et



al. to provide the cable with fire resistant property. It would also have been obvious to one skilled in the art to modify the outer layer of Vexler et al. to be substantially resistant to flame spread and smoke evolution, substantially impermeable to moisture and moisture absorption to improve the fire resistant of the cable since adding flame retardant and smoke suppressant into an insulating layer to provide the layer with flame retardant and smoke suppressant is known in the art.

The modified cable of Vexler et al. also discloses the flame and smoke retardant additive package being intimately mixed with the polyolefin matrix (re claim 4), the nano-sized platelets being intimately mixed within the polyolefin matrix (re claim 5), the nano-sized platelets being organically modified clays or synthetic platelets (re claims 9 and 10), the flame and smoke additive package being a non-halogen additive package (re claim 11), the polyolefin matrix being elastomer polyolefins (re claim 26), the polyolefin matrix of the inner layer being foamed (see Vexler et al.) (re claim 27), the nano-sized platelets being dispersed within the foamed polyolefin matrix (re claim 28), the inner and outer layer combined not exceeding about 12 mils thickness (re claim 29 and 30), and the inner layer having a volume of at least about 35% and up to about 70% of the total thickness (re claim 36). Re claims 2 and 3, it would have been obvious to one

skilled in the art to use FEP for the outer layer of Vexler et al. since FEP is known in the art for being used as insulating material because of its low dielectric constant and excellent flame retardancy. Re claim 29, it would have been obvious to one skilled in the art to use copper for the conductor of Vexler et al. since copper is well-known in the art for being used as electrical conductor.

9. Claims 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vexler et al. in view of Ebrahimian et al. as applied to claim 1 above, and further in view of Spruell et al. (6,573,456).

Claims 31-35 additionally recite the outer surface of the inner layer adjacent the inner surface of the outer layer having a series of channels formed therein, the channels being equally spaced and having identical cross-sections. Spruell et al. discloses a cable comprising a conductor surrounded by an inner and outer layer, wherein the outer surface of the inner layer adjacent the inner surface of the outer layer has a series of channels formed therein, the channels are equally spaced, have identical cross-sections, and penetrate into the inner layer by no more than 66% of the total layer thickness, and the inner surface of the outer layer penetrates into the channels by no more than 10% of the total layer thickness. It would have been obvious to one skilled in the art to modify the inner layer of Vexler et al. to have

the channels in which a self-sealing material will be filled as taught by Spruell et al. to provide the cable with self-sealing properties.

10. Claims 37 and 39-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glew (2004/0149483) in view of Adriaenssens et al. (5,162,609).

Glew discloses a communications cable comprising a plurality of insulated wires, each of said wires comprising a conductor at least one inner insulating layer encasing said conductor, an outer layer encasing said inner insulating layer ([0091]), and an outer jacket encasing the plurality of wires, wherein said cable is performed at frequencies up to about 650 MHz ([0096]).

Glew does not disclose the inner layer being a fire and smoke retardant layer, the outer layer substantially resistant to flame spread and smoke evolution, substantially impermeable to moisture, nor said outer layer has a dielectric constant lower than about 2.5 and dissipation coefficient lower than about 0.001 at frequencies up to about 650 MHz.

Adriaenssens et al. discloses a communications cable. Adriaenssens et al. discloses that to provide a cable which is capable of use in transmitting high frequency signals in central offices, each conductor has a dual insulation system

which is flame-retardant and which is characterized by a suitably low dissipation factor. Adriaenssens et al. also discloses that polyethylene has dielectric constant of about 2.3 and a dissipation factor about 0.001 (col. 5, lines 33-37 and 60-62). It would have been obvious to one skilled in the art to apply the teaching of Adriaenssens et al. in the cable of Glew so that the cable can be used for transmitting high frequency signals.

The modified cable of Glew also discloses the conductors being twisted into four balanced pairs (re claims 39, 42), the jacket being flame resistant and has low smoke evolution (re claim 40), the modified cable of Glew can conform to the requirements of NFPA262 since it comprises structure and material as claimed (re claims 41, 43, 45, 47), an insulating separator between each pair (re claim 44), and a shielding layer between the jacket and the balanced pairs (re claim 46). Re claims 48 and 49, it would have been obvious to one skilled in the art to use FEP for the outer layer of Vexler et al. since FEP is known in the art for being used as insulating material because of its low dielectric constant and excellent flame retardancy.

11. Claims 77-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glew in view of Adriaenssens et al. as applied to claim 37 above, and further in view of Spruell et al.

Claims 77-81 additionally recite the outer surface of the inner layer adjacent the inner surface of the outer layer having a series of channels formed therein, the channels being equally spaced and having identical cross-sections. Spruell et al. discloses a cable comprising a conductor surrounded by an inner and outer layer, wherein the outer surface of the inner layer adjacent the inner surface of the outer layer has a series of channels formed therein, the channels are equally spaced, have identical cross-sections, and penetrate into the inner layer by no more than 66% of the total layer thickness, and the inner surface of the outer layer penetrates into the channels by no more than 10% of the total layer thickness. It would have been obvious to one skilled in the art to modify the inner layer of Glew to have the channels in which a self-sealing material will be filled as taught by Spruell et al. to provide the cable with self-sealing properties.

12. Claims 38, 50, 51, 55-57, 72-76 and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glew in view of Adriaenssens et al. as applied to claim 37 above, and further in view of Ebrahimian et al.

Ebrahimian et al. discloses a composition which is a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix. It would have been obvious to one skilled in the art to modify the inner layer of Glew to be a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix as taught by Ebrahimian et al. to provide the cable with fire resistant property (re claim 38).

The modified cable of Glew also discloses the flame and smoke retardant additive package being intimately mixed with the polyolefin matrix (re claim 50), the nano-sized platelets being intimately mixed within the polyolefin matrix (re claim 51), the nano-sized platelets being organically modified clays or synthetic platelets (re claims 55 and 56), the flame and smoke additive package being a non-halogen additive package (re claim 57), the polyolefin matrix being elastomer polyolefins (re claim 72), the polyolefin matrix of the inner layer being foamed (see Glew) (re claim 73), the nano-sized platelets being dispersed within the foamed polyolefin matrix (re claim 74), the inner and outer layer combined not exceeding about 12 mils thickness (re claim 75 and 76). Re claim 75, it would have been obvious to one skilled in the art to use copper for the conductor of Glew since copper is well-known in the art for being used as electrical conductor. Re

claim 82, it would have been obvious to one skilled in the art to select a suitable volume for the inner layer of Glew to meet the specific use of the resulting cable since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

13. Claims 83 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glew in view of Ebrahimian et al.

Glew discloses a communication cable comprising four twisted pairs of insulated wires, each comprising a conductor, at least one inner layer encasing the conductor, an outer layer encasing the inner layer, and an outer jacket encasing the twisted pairs. Glew does not disclose the cable having a flame travel of less than 5.0 feet, a peak smoke development of less than 0.50 and an average smoke development of less than 0.15 nor the inner layer being a nano-composite layer comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix. Ebrahimian et al. discloses a nano composition comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix and a cable comprising such composition so that the cable can have a flame travel of less than 5.0 feet, a peak

smoke development of less than 0.50 and an average smoke development of less than 0.15. It would have been obvious to one skilled in the art to use the composition as taught by Ebrahimian et al. for the inner layer of Glew so that the cable could pass all the electrical and smoke requirements of NFPA 262 which requires a cable to have a flame travel of less than 5.0 feet, a peak smoke development of less than 0.50 and an average smoke development of less than 0.15.

### ***Double Patenting***

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



15. Claims 1-5, 9-11, 26-30 and 36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 10 of U.S. Patent No. 6,787,694 (Vexler et al.) in view of Ebrahimian et al.

Claims 7 and 10 of Vexler et al. discloses the invention substantially as claimed except for said inner layers being a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix and said outer layer being substantially resistant to flame spread and smoke evolution and substantially impermeable to moisture and moisture absorption. Ebrahimian et al. discloses a composition which is a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix. It would have been obvious to one skilled in the art to modify the inner layer of Vexler et al. to be a nano-composite comprising nano-sized platelets and a flame and smoke retardant additive package dispersed within a polyolefin matrix as taught by Ebrahimian et al. to provide the cable with fire resistant property. It would also have been obvious to one skilled in the art to modify the outer layer of Vexler et al. to be substantially resistant to flame spread and smoke evolution, substantially impermeable to moisture and moisture absorption to improve the fire resistant of the cable since adding flame retardant

and smoke suppressant into an insulating layer to provide the layer with flame retardant and smoke suppressant is known in the art.

The modified cable of Vexler et al. also discloses the flame and smoke retardant additive package being intimately mixed with the polyolefin matrix (re claim 4), the nano-sized platelets being intimately mixed within the polyolefin matrix (re claim 5), the nano-sized platelets being organically modified clays or synthetic platelets (re claims 9 and 10), the flame and smoke additive package being a non-halogen additive package (re claim 11), the polyolefin matrix being elastomer polyolefins (re claim 26), the polyolefin matrix of the inner layer being foamed (see Vexler et al.) (re claim 27), the nano-sized platelets being dispersed within the foamed polyolefin matrix (re claim 28), the inner and outer layer combined not exceeding about 12 mils thickness (re claim 29 and 30), and the inner layer having a volume of at least about 35% and up to about 70% of the total volume thickness (re claim 36). Re claims 2 and 3, it would have been obvious to one skilled in the art to use FEP for the outer layer of Vexler et al. since FEP is known in the art for being used as insulating material because of its low dielectric constant and excellent flame retardancy. Re claim 29, it would have been obvious to one skilled in the art to use copper for the conductor of Vexler et al. since copper is well-known in the art for being used as electrical conductor.

16. Claims 31-35 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 10 of U.S. Patent No. 6,787,694 (Vexler et al.) in view of Ebrahimian et al. as applied to claim 1 above and further in view of Spruell et al.

Claims 31-35 additionally recite the outer surface of the inner layer adjacent the inner surface of the outer layer having a series of channels formed therein, the channels being equally spaced and having identical cross-sections. Spruell et al. discloses a cable comprising a conductor surrounded by an inner and outer layer, wherein the outer surface of the inner layer adjacent the inner surface of the outer layer has a series of channels formed therein, the channels are equally spaced, have identical cross-sections, and penetrate into the inner layer by no more than 66% of the total layer thickness, and the inner surface of the outer layer penetrates into the channels by no more than 10% of the total layer thickness. It would have been obvious to one skilled in the art to modify the inner layer of Vexler et al. to have the channels in which a self-sealing material will be filled as taught by Spruell et al. to provide the cable with self-sealing properties.

***Allowable Subject Matter***

17. Claims 6-8, 12-25, 52-54, and 58-71 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a communications cable comprising all the features as recited in the claims and in combination with the nano-sized platelets forming an interclated nano-composite structure within the polyolefin matrix (re claims 6, 52), the nano-sized platelets forming an exfoliated nano-composite structure within the polyolefin matrix (re claims 7, 53), the nano-sized platelets forming both an interclated nano-composite structure within the polyolefin matrix and an exfoliated nano-composite structure within the polyolefin matrix (re claims 8, 54), the flame and smoke retardant additive package containing at least about 50% light metal hydroxide (re claims 12, 58), the flame and smoke retardant additive package containing at least about 50% intumescent additive (re claims 17, 63), and the flame and smoke retardant additive package containing at least about 50% halogen type additive (re claims 22, 68).

***Cited Art***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Caimi discloses a cable comprising a dual insulation system.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N Nguyen whose telephone number is 571-272-1980. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Chau N Nguyen', with a stylized, flowing script.

Chau N Nguyen  
Primary Examiner  
Art Unit 2831